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During the period 1899–1917, 13,821,126 immigrants from the races shown in the table were admitted into the United States. Of this number 3,029,752, or 21.9 per cent were illiterates who could neither read nor write. It goes without saying that the illiteracy clause above referred to did not reduce the proportions of illiteracy among the several races studied. It is evident that the effect of this clause has been to reduce considerably the numbers of illiterates seeking admission into this country. The Portuguese and the South Italians furnish a striking example of this. Over 50 per cent of the Portuguese admitted during 1899–1917 were illiterates; while during the two years studied only .6 per cent were excluded from admission on account of illiteracy. Of the South Italians 2.9 per cent were refused admission on account of illiteracy during 1917–18 and 1918–19, whereas during 1899–1917 over 45 per cent of the total admitted of this race could neither read nor write. The Polish, the Bulgarian, Servian, and Montenegrin, and the Syrian do not show the same reductions in the proportions of illiterates seeking admission as are shown by any of the other races exhibited in the table.

It will be noticed that the Bohemian and Moravian is the only race which shows a proportion of illiterates debarred during 1917–18 to 1918–19 which is higher than the proportion of illiterates admitted during 1899–1917. However, it should not be overlooked in this connection that the percentage of the Bohemian and Moravian debarred during this period is based on the small number admitted.

An examination of the figures in Table XVII of the Reports of the Commissioner-General of Immigration for 1918 and 1919 shows that illiteracy as a cause for exclusion from admission during the two-year period was next in importance only to the cause "likely to become a public charge." The number rejected for illiteracy was about 19 per cent of the total number debarred for all other thirty-four causes mentioned in the Reports of the Commissioner-General of Immigration.

An analysis of the data presented in the table leads to the following conclusions in regard to the effect of the operation of the illiteracy test during the first two years: (1) It has considerably reduced the proportions of illiterates seeking admission into this country, though not to the same extent among all races; (2) the proportions debarred on account of illiteracy are likely further to decrease rather than to increase; and (3) illiteracy, compared with other causes for exclusion from admission, is very important.

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STATISTICS OF COLLEGE GRADUATES

The following paper gives the results of a study of American statistics of collegiate and professional education with two objects in view: first, to estimate the number of male college graduates in the country at various dates holding degrees of A.B., B.S., Ph.B., or B.L., and the proportion of males over twenty-two years of age who held such a degree; and secondly, to estimate the number of graduates in the country at various dates holding degrees of law, medicine, or theology and to compare them with the reported number of lawyers, doctors, and clergymen.

The best source of information regarding the number of degrees of various sorts conferred each year in the United States is the annual reports* of the United States commissioner of education. From these reports my material is taken.

The problem of determining the number of men living at any particular date holding an A.B., B.S., Ph.B., or B.L. degree divides itself into two parts: first, how many men have received such degrees, and secondly, how many of them survived to a specified date. The reports of the commissioner of education contain figures for the annual number of male graduates only for the years 1880 to 1914 inclusive. The figures for years subsequent to 1914, though given, were classified differently from those of the preceding years, and in consequence it seemed best to make estimates for these years. The rate of increase of the five-year-period 1915 to 1919 over that of 1910 to 1914 was assumed to be the same as the rate of increase for the period 1910 to 1914 over that of 1905 to 1909. Applying this percentage to the figure for 1910 to 1914 gave the estimated figure for the period 1915 to 1919.

In order to obtain a basis for estimating the number of graduates in each year prior to 1880 the following test was made: figures were estimated for the years 1890 to 1900 by working backward from 1900, using both the arithmetic and geometric rate of increase for 1900 to 1910. Table I clearly shows that the geometric rate gives the better approximation to the facts.

TABLE I

ESTIMATED AND ACTUAL NUMBER OF GRADUATES 1891–1900

Year	Reported Number Graduating	Estimated Number Graduating Based on				Per cent Deviation
		Arithmetic Rate of Increase as of 1900 to 1910	Per cent Deviation	Geometric Rate of Increase as of 1900 to 1910		
1900	8,003	8,266	3.29	8,338		4.19
1899	7,764	7,734	.38	7,900		1.75
1898	7,305	7,202	1.41	7,486		2.48
1897	7,051	6,670	5.40	7,093		.60
1896	6,831	6,138	10.15	6,720		1.62
1895	6,376	5,606	12.07	6,367		.14
1894	5,803	5,074	12.56	6,036		4.01
1893	5,793	4,542	21.61	5,719		1.28
1892	5,514	4,010	27.26	5,419		1.72
1891	5,273	3,478	34.04	5,125		2.81
Average percent deviation			12.82			2.06

A further study of the reported figures for the years 1880 to 1910 reveals the fact that the rate of increase is itself increasing. Thus the rates of decennial increase 1880 to 1890, 1890 to 1900, and 1900 to 1910 were 3¼ per cent, 4½ per cent and 5¼ per cent respectively. In view of this fact the rate for the ten years 1880 to 1890 seemed the best to apply to years prior to 1880, and the figures used are based upon this 3¼ per cent rate.

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* In respect to the trustworthiness and completeness of his figures, the present commissioner of education in a letter to the writer says that in his opinion they are as trustworthy as could be obtained, and that "the institutions which failed to report to this office would probably not average more than ten, and they would represent as a rule the smaller institutions."

In order to estimate the number of graduates living at any particular date as shown in Tables V, VI, VII and VIII, the life table* for males in the original registration area for 1909 to 1911 was used. It was assumed that the average age of graduation is twenty-two years, and thus the 77,974 men shown by that life table as living at that age were considered as the base, or 100 per cent. By dividing the number living at each succeeding year by this number, percentages are obtained showing the proportion of these 77,974 men who would be living at each succeeding year of age. Applying these percentages to the number of graduates for the various years gives the number living at each year of life.

The fact of especial significance brought out by the figures in the first column of Table V is the rapidly increasing number of graduates turned out annually by our colleges and universities. More than half of the 496,618 degrees granted since 1815 have been conferred since 1900, and of the 358,026 male college graduates living June 1, 1920, over half received their degrees after 1905. Thus the majority of the college trained men of today are under 37 years of age, and have not yet reached the full fruition of their power and training. Though the last decade has witnessed the most marked increase in the annual number of graduates of our colleges and universities, yet this same tendency is noticeable throughout each period for which figures are obtainable. The number of male college graduates per 100,000 males over twenty years of age for the last five census dates are as follows:

TABLE II

RATIO OF COLLEGE GRADUATES TO POPULATION

Census Date	Living Male College Graduates per 100,000 Males Over 20 Years of Age
1880	687
1890	710
1900	745
1910	874
*1920	1137

* It is assumed that the increase of the male population over twenty years of age for the decade 1910 to 1920 was by the same amount as that for the decade 1900 to 1910.

In studying the professional degrees granted by universities and professional schools, the same general method of analysis was followed. Tables VI, VII and VIII show by five year periods the results of these computations for graduates in law, medicine, and theology. From 1815 through 1919 our law schools have graduated 138,603 men, our medical schools 236,318, and our theological schools 80,951. The most striking fact shown by these figures is the rapidly decreasing number of medical graduates. The estimated number of degrees granted by medical schools in the period 1915 to 1919 was less than in any previous quinquennial period subsequent to the period 1875–1880. Since the year 1904, when 5,702 received medical degrees, there has been an almost steady falling off in the number of medical graduates. The same tendency is noticeable in respect to the students in attendance, there being in 1903, 27,062 students enrolled in medical schools, while in 1915 this figure was only 15,000.

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* **Bureau of Census of United States Life Tables: 1910, pp. 18 *et seq.***

Among the reasons for this decrease as stated by the commissioner of education in his report of 1909 are: (1) The increased rigor of state and college requirements; (2) the adoption of the four year course by most schools; and (3) much severer college entrance requirements. Modern medical education is becoming more costly because of the time that must be spent in training and because of the actual money outlay. Expensive laboratories must be established and maintained and abundant hospital facilities provided.

A second striking fact to be derived from these statistics is the rapidly increasing ratio of college trained physicians to total practitioners given by the census. The number of physicians holding a medical degree per 1,000 practising physicians for the census dates 1880, 1890, 1900, and 1910 has been 591, 757, 885, and 952 respectively. Though the ratio of total physicians per 100,000 population has remained about the same during this period, being for these dates 171, 167, 174, and 172 respectively, that for physicians with a degree from a medical college has shown a steady increase, being for the same dates 101, 126, 153, and 163 respectively. We have relatively no more physicians today than we had a generation ago, yet the figures indicate that those we do have are better trained than those who attended our parents.

This same tendency is shown in regard to lawyers and clergymen although to a less marked degree, as the following table indicates:

TABLE III

RATIO OF COLLEGE-TRAINED TO TOTAL LAWYERS AND CLERGYMEN

Year	Practitioners With a Professional Degree per 1,000 Total Practitioners	
	Lawyers	Clergymen
1880	294	256
1890	286	263
1900	400	312
1910	595	423

The number of lawyers and clergymen per 100,000 population is shown by the following table:

TABLE IV

RATIO OF LAWYERS AND CLERGYMEN TO POPULATION

Year	Total Practitioners		College-Trained Practitioners	
	Lawyers	Clergymen	Lawyers	Clergymen
1880	128	129	38	33
1890	143	140	40	36
1900	151	147	60	45
1910	133	163	79	49

Probably the main reason for the increasing proportion of medical and legal students who receive their training in universities and professional schools lies in the increasing rigor of state examinations. This is particularly true in the medical profession where great strides have been made in the last generation along the line of state supervision. In the report of 1880 the commissioner of education wrote, speaking of the medical profession: "The profession has been overcrowded for many years chiefly because of the scandalous ease with which men imperfectly educated or not educated at all have been able to assume its titles and duties."

TABLE V

MEN HOLDING AN A.B., B.S., PH.B., OR B.L. DEGREE

Year	Number Graduating	Those Living on June First				
		1920	1910	1900	1890	1880
*1915–19	95,159	93,611				
1910–14	71,515	68,249				
1905–09	54,190	49,805	53,290			
1900–04	45,172	39,598	43,117			
1895–99	35,327	29,253	32,461	34,743		
1890–94	27,411	21,154	24,015	26,154		
1885–89	26,157	18,429	21,643	24,023	25,663	
1880–84	23,293	14,457	17,971	19,911	22,223	
*1875–79	19,567	10,118	13,794	16,196	17,970	19,240
1870–74	16,797	6,706	10,421	12,957	14,717	16,025
1865–69	14,417	4,045	7,456	10,165	11,933	13,245
1860–64	12,373	1,924	4,938	7,677	9,545	10,840
1855–59	10,820	677	2,907	5,491	7,487	8,791
1850–54	9,110		1,417	3,637	5,651	7,022
1845–49	7,813		527	2,139	4,039	5,508
1840–44	6,703			1,002	2,675	4,159
1835–39	5,750			390	1,573	2,973
1830–34	4,925				765	1,967
1825–29	3,380				285	1,156
1820–24	3,627					564
1815–19	3,112					211
Total	496,618	358,026	233,957	164,485	124,526	91,701

* Figures for the number of graduates prior to 1880 and for the period 1915–19 are estimates.

In addition to the increasing rigor of state bar examinations many students are undoubtedly being sent to law schools through their inability to secure adequate legal training in the offices of practitioning attorneys. Regarding this the late Chief Justice Waite said: "The time has gone by when an eminent lawyer, in full practice, can take a class of students into his office and become their teacher. Once that was practicable, but now it is not. The consequence is that the law schools are now a necessity."

An interesting relationship seems to exist between the law and medical graduates. Since 1904 the annual increase in the number of law graduates roughly equals the annual decrease in the number of medical graduates. In 1910 there were 5,555 fewer medical students than in 1904, while there were 5,261 more law students. This relationship is quite natural, for while medical college requirements are becoming increasingly difficult, law college requirements show the opposite tendency. Thus in 1880, in order to enroll in the Columbia Law School one had to pass examinations in Roman, English, and United States his-

TABLE VI

PERSONS HOLDING DEGREES CONFERRED BY LAW SCHOOLS

Year	Number Graduating	Those Living on June First				
		1920	1910	1900	1890	1880
*1915–19	24,031	23,632				
1910–14	21,451	20,464				
1905–09	17,985	16,524	17,686			
1900–04	16,851	14,756	16,072			
1895–99	14,919	12,350	13,705	14,669		
1890–94	9,981	7,724	8,765	9,536		
1885–89	5,080	3,597	4,217	4,674	5,001	
1880–84	4,755	2,933	3,656	4,157	4,530	
*1875–79	4,646	2,408	3,279	3,849	4,272	4,569
1870–74	3,670	1,467	2,279	2,831	3,216	3,502
1865–69	3,025	829	1,566	2,133	2,505	2,779
1860–64	2,497	390	998	1,649	1,926	2,188
1855–59	2,057	140	563	1,065	1,451	1,703
1850–54	1,697	28	264	677	1,053	1,308
1845–49	1,403		95	384	725	988
1840–44	1,161		14	182	464	872
1835–39	961			65	264	497
1830–34	795				124	317
1825–29	655				45	178
1820–24	540					85
1815–19	443					29
Total	138,603	107,251	73,159	45,871	25,576	18,864

* Figures for the number of graduates prior to 1880 and for the period 1915–19 are estimates.

TABLE VII

PERSONS HOLDING DEGREES CONFERRED BY MEDICAL SCHOOLS

Year	Number Graduating	Those Living on June First				
		1920	1910	1900	1890	1880
*1915–19	16,855	16,558				
1910–14	20,165	19,252				
1905–09	25,013	22,945	24,572			
1900–04	27,073	23,718	25,825			
1895–99	25,846	21,388	23,735	25,411		
1890–94	23,323	17,982	20,427	22,245		
1885–89	19,987	14,095	16,543	18,358	19,647	
1880–84	16,966	10,521	13,085	14,862	16,185	
*1875–79	13,655	7,080	9,640	11,314	12,550	13,433
1870–74	10,431	4,172	6,478	8,051	9,142	9,952
1865–69	8,283	2,275	4,289	5,843	6,863	7,612
1860–64	6,581	1,028	2,631	4,088	5,078	5,768
1855–59	5,225	355	1,435	2,706	3,686	4,328
1850–54	4,149	87	649	1,659	2,577	3,202
1845–49	3,292		224	905	1,704	2,322
1840–44	2,613		50	409	1,046	1,622
1835–39	2,075			141	571	1,075
1830–34	1,644			28	256	657
1825–29	1,302				96	358
1820–24	1,033					162
1815–19	816					56
Total	236,318	161,456	149,583	115,020	79,401	50,547

* Figures for the number of graduates prior to 1880 and for the period 1915–19 are estimates.

TABLE VIII
PERSONS HOLDING DEGREES CONFERRED BY THEOLOGICAL SCHOOLS

Year	Number Graduating	Those Living on June First				
		1920	1910	1900	1890	1880
*1915–19	10,175	10,007				
1910–14	9,440	9,004				
1905–09	8,147	7,485	8,009			
1900–04	8,179	7,159	7,799			
1895–99	8,338	6,900	7,658	8,198		
1890–94	7,030	5,423	6,159	6,706		
1885–89	5,113	3,619	4,242	4,704	5,032	
1880–84	3,737	2,317	2,883	3,272	3,565	
*1785–79	3,784	1,950	2,663	3,127	3,472	3,719
1870–74	3,465	1,384	2,151	2,673	3,036	3,306
1865–69	2,815	772	1,456	1,985	2,331	2,586
1860–64	2,289	357	915	1,421	1,765	2,005
1855–59	1,864	126	510	964	1,314	1,544
1850–54	1,518	25	237	607	943	1,171
1845–49	1,236		89	337	640	872
1840–44	1,006			158	401	623
1835–39	816			56	223	423
1830–34	663				105	264
1825–29	538				36	146
1820–24	438					68
1815–19	360					25
Total	80,951	56,528	44,771	34,208	22,863	16,752

* Figures for the number of graduates prior to 1880 and for the period 1915–19 are estimates.

tory, Greek, Latin, and Rhetoric. Compare these requirements with the following quotation from the 1910 report of the commissioner of education: "In the 114 legal institutions with the exception of the law departments of about one dozen universities admission is readily granted to graduates of high schools. About one-quarter of the law schools allow graduation after two years of attendance and two schools grant degrees after only one year of attendance."

One cannot but be impressed in studying these figures by the increasing importance of the college-trained man in the professions. More and more he is becoming the dominating figure among professional men. In 1880, 59 per cent of our physicians held a medical degree, while in 1910, 95 per cent of them had received this degree. Apparently our health is better attended to than either our property or spiritual welfare, yet these last two professions show the same increasing dominance of the college-trained man.

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THE BEST INDEX OF BUILD

Robustness is a rough index of health. Since the weight of men varies with their height, the mere weight is of little use as an index of robustness, and just how robustness may be best expressed quantitatively is a matter of doubt. The naive procedure is to divide the weight by the height, but this has the serious objection that while height is a linear dimension, weight is really a volumetric dimension. Were men approximately cylinders of different height, then the weight divided by the height would give an appropriate index of